In The Claims:

Claim 1. (currently amended) ~~A~~ An isolated biopolymer marker peptide consisting of amino acid residues 2-12 of SEQ ID NO:1 diagnostic for insulin resistance.

Claims 2-38. (canceled).

Claim 39. (currently amended) A method for diagnosing insulin resistance comprising:

(a) obtaining a sample from a patient;

(b) conducting mass spectrometric analysis on said sample in a manner effective to maximize elucidation of discernible peptide fragments contained therein; and

(c) comparing mass spectrum profiles of a peptide consisting of amino acid residues 2-12 of SEQ ID NO:1 to mass spectrum profiles of peptides elucidated from said sample; wherein recognition of a mass spectrum profile in the sample displaying the characteristic profile of the mass spectrum profile for the peptide consisting of amino acid residues 2-12 of SEQ ID NO:1 is diagnostic for insulin resistance.

Claim 40. (previously presented) The method of claim 39, wherein the sample is an unfractionated body fluid or a tissue sample.

Claim 41. (previously presented) The method of claim 39, wherein said sample is selected from the group consisting of blood, blood products, urine, saliva, cerebrospinal fluid, and lymph.

Claim 42. (previously presented) The method of claim 39, wherein said mass spectrometric analysis is selected from the group consisting of Surface Enhanced Laser Desorption Ionization (SELDI) mass spectrometry (MS),Maldi Qq TOF, MS/MS, TOF-TOF, ESI-Q-TOF and ION-TRAP.

Claim 43. (previously presented) The method of claim 39, wherein said patient is a human.

Claim 44. (currently amended) An insulin resistance diagnostic kit comprising: (a) a peptide consisting of amino acid residues 2-12 of SEQ ID NO:1 and (b) an antibody that binds to said peptide in a sample from a patient.

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Claim 45. (previously presented) The diagnostic assay kit of claim 44, wherein said antibody is immobilized on a solid support.

Claim 46. (previously presented) The diagnostic kit of claim 44, wherein said antibody is labeled.